

# SAGAR SAHU

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## EDUCATION

**Shri Shankaracharya Institute of Professional Management & Technology**  
Bachelor of Technology in Computer Science & Engineering; CGPA: 7.3/10.0

Raipur, CG  
2023 – 2027

## EXPERIENCE

<b>AI/ML Vocational Trainee</b> IIT Naya Raipur	Jun 2025 – Aug 2025
<ul style="list-style-type: none"><li>Engineered a hypertension screening system [Source Code] achieving <b>87.88% accuracy</b> on <b>25,201 PPG signals</b> by implementing advanced <b>APG feature extraction</b> and <b>XGBoost</b> classifiers.</li><li>Attained <b>93.84% specificity</b> for clinical viability by utilizing <b>GroupShuffleSplit</b> for subject-independent validation, successfully preventing data leakage.</li><li>Boosted model performance by <b>31%</b> (67% to 87.88%) over baseline by optimizing <b>frequency-domain features</b> (LF/HF ratio) and addressing class imbalance with <b>SMOTE</b>.</li></ul>	Naya Raipur, India
<b>AI-ML Virtual Intern</b> Google for Developers (MoE & AICTE Partnership)	Oct 2025 – Dec 2025
<ul style="list-style-type: none"><li>Achieved <b>Grade O (Outstanding: 90-100%)</b> in a competitive 10-week AI-ML internship sponsored by Ministry of Education and supported by Google for Developers through the India Edu Program.</li><li>Mastered deep learning fundamentals using <b>TensorFlow</b> across 6 modules: neural network programming, object detection with <b>bounding box regression</b>, and advanced <b>CNN architectures</b> for image classification.</li><li>Gained expertise in <b>visual search engine</b> development, learning similarity scoring algorithms and techniques for connecting image databases to ML models for product image retrieval and pattern recognition.</li></ul>	Remote

## PROJECTS

<b>Mechanic Mitra: Enterprise Multi-Agent System</b>   Gemini 2.5, Agentic Workflows   Source Code	Nov 2025
<ul style="list-style-type: none"><li>Architected a <b>Multi-Agent Orchestration system</b> with 4 autonomous agents (Visual, Audio, Pricing, Chief) engineered to streamline vehicle diagnostics from typical 45-minute manual inspections to 3-minute automated assessments.</li><li>Engineered a persistent <b>DiagnosisMemory</b> system that improves classification accuracy over time by identifying patterns in historical fault data.</li><li>Built production-grade resilience with <b>exponential backoff</b> and error handling to manage API rate limits (15 RPM) for the <b>Gemini 2.5</b> model.</li></ul>	
<b>PDF Summarizer</b>   Python, Gemini Flash Lite, Streamlit   Website   Source Code	Oct 2025
<ul style="list-style-type: none"><li>Reduced document analysis time by <b>85%</b> for end-users by engineering a summarization engine using <b>Gemini 2.5 Flash Lite</b>.</li><li>Architected an intelligent caching layer to maximize free-tier API quotas, enabling sustained operation within <b>1,500 requests per day</b> capacity at zero cost.</li><li>Ensured <b>99.9% uptime</b> for file uploads up to 5MB by managing session states securely on <b>Streamlit Cloud</b>.</li></ul>	

## SKILLS

**Generative AI:** Vertex AI, Gemini 2.5, Prompt Engineering, RAG Pipelines, Multi-modal Agents  
**Machine Learning:** XGBoost, Scikit-learn, Pandas, NumPy, Gradient Descent, Signal Processing, Bio-medical Analysis  
**Cloud Infrastructure:** Oracle OCI (Certified Professional), Google Cloud Platform (15 Verified Skill Badges)  
**Development:** Python, SQL, Git, Streamlit, REST APIs, JSON Data Handling

## CERTIFICATIONS

**Oracle University:** OCI 2025 Certified Generative AI Professional (**Oct 2025**) | Data Science Professional (**Oct 2025**)  
**Google Cloud:** Generative AI Fundamentals (Udacity) | 15 Google Cloud Skill Badges (Infrastructure & AI)  
**Simplilearn:** Machine Learning using Python (**Aug 2025**) | Python for Beginners (**Sept 2025**)  
**Industry:** Data Analysis Using Pandas (Vodafone/\_VOIS) | IP Strategy (L2Pro India/Qualcomm)